PATENT
BC9-98-105

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
GLEN R. WALTERS, et al.	)	Group Art Unit: 2663
Serial No.: 09/299,309	)	
Filed: April 26, 1999	)	Examiner: D. Ferris
For: SIMULATED LOW-BANDWIDTH CONNECTION	)	

APPELLANTS' SUPPLEMENTAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellants hereby request reinstatement of their appeal and respectfully submit their supplemental brief in support of their appeal to the Board of Patent Appeals and Interferences from the decision dated December 11, 2003 of the Examiner finally rejecting claims 1-24 of the above-referenced application.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on 6/14/04.
Date of Deposit

Stephen Bongini
Appellant, Assignee, or Representative

Signature 6/14/04
Dated

1. REAL PARTY IN INTEREST

The real party in interest is International Business Machines Corporation (IBM) of Armonk, New York.

2. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

3. STATUS OF CLAIMS

Claims 1-24 are pending. Claims 1-24 were finally rejected in the Office Action dated December 11, and are on appeal.

Attached hereto is an Appendix containing a copy of claims 1-24, which are the claims involved in this appeal.

4. STATUS OF AMENDMENTS

An "Amendment After Final" was filed on April 30, 2003. In an Advisory Action dated May 16, 2003, the Examiner stated that the Amendment After Final would be entered for purposes of Appeal. Further, in the Office Action dated December 11, the Examiner withdrew the finality of the previous Office Action (dated January 30, 2003) so the "Amendment" of April 30, 2003 should now have been entered as a matter of right.

5. SUMMARY OF THE INVENTION

The present invention is directed to the simulation of a low-bandwidth connection over a higher-bandwidth connection by using a speed control layer to limit the speed at which data is transferred. One preferred embodiment of the present invention provides a method of simulating a low-bandwidth connection over a higher-bandwidth connection, as described in the specification at page 4, line 16 through page 6, line 11. According to this method, data from a first device 20 is received at a speed control layer 24 at a first speed. Even though a high-bandwidth connection at a third speed then exists between the speed control layer 24 and a client device 30, the maximum data transfer speed of the high-bandwidth connection between the speed

control layer 24 and the client device 30 is limited so as to transfer the data at a second speed over the high-bandwidth connection from the speed control layer 24 to the client device 30. [page 5, line 1 through page 6, line 11]

The second speed at which the data is transferred from the speed control layer 24 to the client device 30 is less than the first speed and less than the third speed. In other words, the maximum speed at which data is transferred from the speed control layer 24 to the client device 30 (the second speed) is limited so as to be: less than the speed at which the data is received from the first device 20 (the first speed), and less than the speed of the connection that then exists between the speed control layer 24 and the client device 30 (the third speed).

Thus, even though data is received at the speed control layer 24 at the first speed and there is actually a high-bandwidth connection at the third speed between the speed control layer 24 and the client device 30, data transfer between the speed control layer 24 and the client device 30 is limited to the slower second speed. This simulates a low-bandwidth connection at the slower (second) speed between the first device 20 and the client device 30, even though a faster connection (at greater than the second speed) actually exists at that time between the first device 20 and the client device 30. [page 4, lines 16-24]

6. ISSUE

Whether claims 1-24 are unpatentable under 35 U.S.C. § 103(a) over Garroppo et al. ("A teletraffic analysis of dial-up connections over PSTN", IEEE Global Telecommunications Conference, 1998, v. 2, pp. 1190-1195) in view of Jones ("Internet Basics", IEEE ELECTRO '96, 1996, pp. 155-189).

7. GROUPING OF CLAIMS

Group I

Claims 1-14 stand or fall together.

Group II

Claims 15-24 stand or fall together.

8. ARGUMENT

A. CLAIMS 1-14 (GROUP I) ARE PATENTABLE OVER GARROPPO ET AL. IN VIEW OF JONES

Appellants respectfully submit that claims 1-14 are patentable over Garroppo et al. in view of Jones because neither Garroppo nor Jones, nor a combination of the two, teaches or suggests a method of simulating a low-bandwidth connection in which the maximum data transfer speed over a connection to a client device is limited so as to transfer data to the client device at a speed that is less than the speed of this connection.

Claims 1 and 9 recite a method and program for simulating a low-bandwidth connection over a higher-bandwidth connection in which data is received at a speed control layer at a first speed, and the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a client device, which is at a third speed, is limited so as to transfer the data from the speed control layer to the client device at a second predetermined speed, which is less than the first speed and less than the third speed of the high-bandwidth connection.

The Garroppo reference discloses the collection and analysis of traffic data for an Internet dial-up access server. Figure 1 of Garroppo shows a computer system that was used to analyze the traffic of the dial-up access server. As shown, the computer system includes multiple client computers that can be connected to the access server over a PSTN (i.e., telephone) network. The access server includes an analog modem pool and a dial-up router, and is directly connected to the Internet at a speed of 64 kbps or 128 kbps. Each of the client computers connects to the access server over the PSTN network via modem at a speed of 28.8 kbps or 33.6 kbps. During operation, there exists a connection at a first speed (either 28.8 kbps or 33.6 kbps) between a given one of the client computers and the access server, and data received at the access server at a second speed (e.g., 128 kbps) is transferred from the access server to that client computer at the first speed.

Thus, in the computer system disclosed in Garroppo, the access server is connected to a client computer by an analog modem connection at a given speed (either 28.8 kbps or 33.6 kbps), and data is transferred from the access server to this client computer over the analog modem connection at the speed of the connection that then exists between that client computer and the access server. While the access server may connect to one client computer via a connection at one speed and to another client computer via another connection at another speed, data is transferred from the access server to each of the client computers at the speed of the connection that then exists between that client computer and the access server. Similarly, while one client computer may connect to the access server at one time via a connection at one speed and at another time via another connection at another speed, data is transferred from the access server to that client computer at the speed of the connection that exists at a given time between that client computer and the access server. In other words, the access server never limits the maximum data transfer speed between itself and a client computer to less than the speed of the connection that currently exists between the access server and that client computer.

In contrast, in preferred embodiments of the present invention, the maximum data transfer speed over a connection that currently exists between the speed control layer and the client device is limited so as to transfer data to the client device at a speed that is less than the speed of the then-existing connection. More specifically, in the embodiments recited in claims 1 and 9, at a given time there exists a connection at a third speed between the speed control layer and the client device. However, data from the first device, which is received at the speed control layer at a first speed, is transferred from the speed control layer to the client device over this connection at a second speed, which is less than the speed of the connection that then exists between the speed control layer and the client device. This second speed (at which the data is transferred from the speed control layer to the client device) is less than the first speed (at which the data is received from the first device) and less than the third speed (i.e., the speed of the connection that then exists between the speed control layer and the client device).

Thus, data transfer to the client device is limited to a slower speed, even though the connection that then exists to the client device is actually at a faster speed. This simulates a low-

bandwidth connection at the slower speed between the sending device and the client device, even though a faster (i.e., higher bandwidth) connection actually exists at that time between the sending and client devices.

The Examiner has taken the position that Garroppo discloses that a client device connects to the access server at a second speed (either 28.8 kbps or 33.6 kbps), and also discloses or infers that there is a connection at a third speed, which is greater than the second speed, between the access server and the client device. The Examiner maintains that Garroppo discloses or infers a connection between the access server and the client device at a third speed, which is greater than the second speed, because the reference teaches that the speed of the connection between these two devices can be upgraded by upgrading the client device's modem so as to allow connection at a faster speed. The Examiner reasoned that because the speed of the connection can be increased using new technology (such as a faster modem or different communication method), the "speed [of the connection between these two devices] is infinite in comparison with the second speed [at which the two devices are currently connected]". This position of the Examiner is respectfully traversed.

Applicants completely fail to understand how this teaching has any relevance to the specific speeds recited in claims 1 and 9 for specific connections that exist at a given time between specific devices. Garroppo merely discloses that hardware can be upgraded to allow the speed of the connection that is made between a client device and the access server to increase from 28.8 kbps to 33.6 kbps. Such hardware upgrades operate to change the speed of the connection that exists between the two devices. In particular, before the upgrade there exists a connection at one speed between the two devices, and after the hardware upgrade there exists a connection at another speed between the two devices. Thus, the hardware upgrade referred to by the Examiner allows one client device to connect to the access server at one time via a connection at one speed and at another time via another connection at another speed. In other words, data is transferred from the access server to that client device at the speed of the connection that exists at a given time between that client device and the access server. In no way does such an upgrade operate to limit the maximum data transfer speed over the connection that

then exists between the access server and the client device to some speed that is less than the speed of the that connection between the access server and that client device.

For example, if the client device first has a 28.8 kbps modem, at that time the client device can make a connection with the access server at a speed of 28.8 kbps such that data is transferred from the access server to the client device at 28.8 kbps (i.e., the speed of the connection that then exists between the client device and the access server). If the client device is then upgraded to have a 33.6 kbps modem, the client device will then be able to make a connection with the access server at a speed of 33.6 kbps such that data is transferred from the access server to the client device at 33.6 kbps (i.e., the speed of the connection that then exists between the client device and the access server). Thus, while upgrading or changing hardware does allow a connection between two devices at one speed to later become a connection between the two devices at another speed, it does not limit a connection at a specific speed that exists between two devices so as to transfer data between the two devices at some speed that is less than the specific speed of that connection at that time. In other words, such a change in hardware changes the speed of the connection itself, possibly to a lower speed, but it does not limit the data transfer speed over the connection to less than the speed of the connection that then exists between the two devices.

Claims 1 and 9 recite a method and program for simulating a low-bandwidth connection over a higher-bandwidth connection. While the speed of a "high-bandwidth connection" may be relative, the speed of a "low bandwidth connection" by definition must be less than the speed of a "higher-bandwidth connection". According to the reasoning of the Examiner, all connections -- past, present, and future -- between two devices simulate a low bandwidth connection because the speed of the connection that exists between the two devices could be infinite and is only limited by current technology. However, even with such reasoning, this does not mean that all connections are "simulating a low bandwidth connection" because a higher-bandwidth connection could theoretically be made between the two devices, at least in the context of the present application and claims. This reasoning only leads to the conclusion that all connections are actually low bandwidth connections, not connections that simulate low bandwidth connections over a higher bandwidth connection. Regardless of any change in the technology

used in the system of Garroppo, data is still always transferred between two devices at the speed of the connection that exists between those two device at that time.

The present invention is directed to allowing a client computer that at a given time has a connection at one speed to easily simulate the experience that would be had if that existing connection was instead at some lower speed. Basically, all connections between two devices must always made at some specific finite speed. This is necessary to allow data to be transferred in an comprehensible manner. Of course, the speed of the connection that will be made between the two devices can be changed by changing the devices making the connection or the route itself. For example, the modem on a device can be upgraded to a higher speed modem as suggested by the Examiner. Similarly, the user of a device with a high speed LAN connection can switch to another device that uses an actual modem for connecting. In either case, a connection at one data transfer speed is changed so that at a later time there is a connection at a different data transfer speed. This is very different than limiting the maximum data transfer speed of a connection at a specific speed so as to transfer data at some speed that is less than the specific speed of the connection that then exists between the two devices.

Garroppo does not teach or suggest limiting the maximum data transfer speed over a connection to a client device so as to transfer data to the client device at a speed that is less than the speed of the then-existing connection. In Garroppo, the maximum data transfer speed over a connection to a client computer is never limited to a speed that is less than the speed of the connection that then exists between the two devices. Furthermore, this claimed feature of the present invention is not realized even if the teachings of Jones are incorporated into Garroppo. Jones does not teach or suggest the claimed features of the present invention that are absent from Garroppo.

Neither Garroppo nor Jones, nor a combination of the two, teaches or suggests a method for simulating a low-bandwidth connection in which the maximum data transfer speed over a connection to a client device is limited so as to transfer data to the client device at a speed that is less than the speed of this connection.

B. CLAIMS 15-24 (GROUP II) ARE PATENTABLE OVER GARROPPO ET AL. IN VIEW OF JONES

Appellants respectfully submit that claims 15-24 are patentable over Garroppo et al. in view of Jones because neither Garroppo nor Jones, nor a combination of the two, teaches or suggests a computer system or proxy server that limits the maximum data transfer speed over a connection to a client device so as to transfer data to the client device at a speed that is less than the actual speed of this connection.

Claim 15 recites a computer system that includes a first device transferring data at a first speed, and a speed control layer coupled between the first device and a client device for limiting the maximum data transfer speed of a high-bandwidth connection that exists between the speed control layer and the client device so as to transfer data from the first device to the client device over the high-bandwidth connection at a second predetermined speed that is less than the first speed and less than the normal speed of the high-bandwidth connection. Similarly, claim 20 recites a proxy server that includes speed control means for limiting the maximum data transfer speed of a high-bandwidth connection between a server and a client computer so as to transfer data from the server to the client computer over the high-bandwidth connection at a first predetermined speed that is less than the normal speed of the high-bandwidth connection.

The Garroppo reference discloses the collection and analysis of traffic data for an Internet dial-up access server. Figure 1 of Garroppo shows a computer system that was used to analyze the traffic of the dial-up access server. As shown, the computer system includes multiple client computers that can be connected to the access server over a PSTN (i.e., telephone) network. The access server includes an analog modem pool and a dial-up router, and is directly connected to the Internet at a speed of 64 kbps or 128 kbps. Each of the client computers connects to the access server over the PSTN network via modem at a speed of 28.8 kbps or 33.6 kbps. During operation, there exists a connection at a first speed (either 28.8 kbps or 33.6 kbps) between a given one of the client computers and the access server, and data received at the access server at a

second speed (e.g., 128 kbps) is transferred from the access server to that client computer at the first speed.

Thus, in the computer system disclosed in Garroppo, the access server is connected to a client computer by an analog modem connection at a given speed (either 28.8 kbps or 33.6 kbps), and data is transferred from the access server to this client computer over the analog modem connection at the speed of the connection that then exists between that client computer and the access server. While the access server may connect to one client computer via a connection at one speed and to another client computer via another connection at another speed, data is transferred from the access server to each of the client computers at the speed of the connection that then exists between that client computer and the access server. Similarly, while one client computer may connect to the access server at one time via a connection at one speed and at another time via another connection at another speed, data is transferred from the access server to that client computer at the speed of the connection that exists at a given time between that client computer and the access server. In other words, the access server never limits the maximum data transfer speed between itself and a client computer to less than the speed of the connection that currently exists between the access server and that client computer.

In contrast, in preferred embodiments of the present invention, the maximum data transfer speed over the connection between the speed control layer and the client device is limited so as to transfer data to the client device at a speed that is less than the actual speed of this connection. More specifically, in the embodiments recited in claims 15 and 20, there actually exists a connection at a normal speed between a first device and a client device. However, data is transferred from the speed control layer or means to the client device over this connection at a first speed, which is less than the normal speed of the connection that then exists between the speed control layer or means and the client device. This first speed (at which the data is transferred to the client device) is less than the normal speed (i.e., the speed of the connection that then exists between the speed control layer and the client device).

Thus, data transfer to the client device is limited to a slower speed, even though the connection to the client device is actually at a faster speed. This simulates a low-bandwidth

connection at the slower speed between the sending device and the client device, even though a faster connection exists between the sending and client devices.

The Examiner has taken the position that Garroppo discloses that a client device connects to the access server at first speed (either 28.8 kbps or 33.6 kbps), and also discloses or infers that there is a connection at a normal speed, which is greater than the first speed, between the access server and the client device. The Examiner maintains that Garroppo discloses or infers a connection between the access server and the client device at a normal speed, which is greater than the first speed, because the reference teaches that the speed of the connection between these two devices can be upgraded by upgrading the client device's modem so as to allow connection at a faster speed. The Examiner reasoned that because the speed of the connection can be increased using new technology (such as a faster modem or different communication method), the speed of the connection between these two devices "is infinite in comparison with" the speed at which the two devices are currently connected. This position of the Examiner is respectfully traversed.

Applicants completely fail to understand how this teaching has any relevance to the specific speeds recited in claims 1 and 9 for specific connections that exist at a given time between specific devices. Garroppo merely discloses that hardware can be upgraded to allow the speed of the connection that is made between a client device and the access server to increase from 28.8 kbps to 33.6 kbps. Such hardware upgrades operate to change the speed of the connection that exists between the two devices. In particular, before the upgrade there exists a connection at one speed between the two devices, and after the hardware upgrade there exists a connection at another speed between the two devices. Thus, the hardware upgrade referred to by the Examiner allows one client device to connect to the access server at one time via a connection at one speed and at another time via another connection at another speed. In other words, data is transferred from the access server to that client device at the speed of the connection that exists at a given time between that client device and the access server. In no way does such an upgrade operate to limit the maximum data transfer speed over the connection that then exists between the access server and the client device to some speed that is less than the speed of the that connection between the access server and that client device.

For example, if the client device first has a 28.8 kbps modem, at that time the client device can make a connection with the access server at a speed of 28.8 kbps such that data is transferred from the access server to the client device at 28.8 kbps (i.e., the speed of the connection that then exists between the client device and the access server). If the client device is then upgraded to have a 33.6 kbps modem, the client device will then be able to make a connection with the access server at a speed of 33.6 kbps such that data is transferred from the access server to the client device at 33.6 kbps (i.e., the speed of the connection that then exists between the client device and the access server). Thus, while upgrading or changing hardware does allow a connection between two devices at one speed to later become a connection between the two devices at another speed, it does not limit a connection at a specific speed that exists between two devices so as to transfer data between the two devices at some speed that is less than the specific speed of that connection at that time. In other words, such a change in hardware changes the speed of the connection itself, possibly to a lower speed, but it does not limit the data transfer speed over the connection to less than the speed of the connection that then exists between the two devices.

Claims 15 and 20 recite a computer system and proxy server that simulate a low-bandwidth connection over a higher-bandwidth connection. While the speed of a "high-bandwidth connection" may be relative, the speed of a "low bandwidth connection" by definition must be less than the speed of a "higher-bandwidth connection". According to the reasoning of the Examiner, all connections -- past, present, and future -- between two devices simulate a low bandwidth connection because the speed of the connection that exists between the two devices could be infinite and is only limited by current technology. However, even with such reasoning, this does not mean that all connections are "simulating a low bandwidth connection" because a higher-bandwidth connection could theoretically be made between the two devices, at least in the context of the present application and claims. This reasoning only leads to the conclusion that all connections are actually low bandwidth connections, not that all connections simulate low bandwidth connections over a higher bandwidth connection. Regardless of any change in the technology used in the system of Garroppo, data is still always transferred between two devices at the speed of the connection that exists between those two device at that time.

The present invention is directed to allowing a client computer that at a given time has a connection at one speed to easily simulate the experience that would be had if that existing connection was instead at some lower speed. Basically, all connections between two devices must always made at some specific finite speed. This is necessary to allow data to be transferred in an comprehensible manner. Of course, the speed of the connection that will be made between the two devices can be changed by changing the devices making the connection or the route itself. For example, the modem on a device can be upgraded to a higher speed modem as suggested by the Examiner. Similarly, the user of a device with a high speed LAN connection can switch to another device that uses an actual modem for connecting. In either case, a connection at one data transfer speed is changed so that at a later time there is a connection at a different data transfer speed. This is very different than limiting the maximum data transfer speed of a connection at a specific speed so as to transfer data at some speed that is less than the specific speed of the connection that then exists between the two devices.

Garroppo does not teach or suggest limiting the maximum data transfer speed over a connection to a client device so as to transfer data to the client device at a speed that is less than the speed of the then-existing connection. In Garroppo, the maximum data transfer speed over a connection to a client computer is never limited to a speed that is less than the speed of the connection that then exists between the two devices. Furthermore, this claimed feature of the present invention is not realized even if the teachings of Jones are incorporated into Garroppo. Jones does not teach or suggest the claimed features of the present invention that are absent from Garroppo.

Neither Garroppo nor Jones, nor a combination of the two, teaches or suggests a computer system or proxy server that simulates a low-bandwidth connection by limiting the maximum data transfer speed over a connection to a client device so as to transfer data to the client device at a speed that is less than the speed of this connection.

In view of the foregoing, it is respectfully submitted that the application and the claims are in condition for allowance. Reversal of the final rejection of claims 1-24 is respectfully requested.

Respectfully submitted,

Date: June 14, 2004

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9. APPENDIX

1. A method of simulating a low-bandwidth connection over a higher-bandwidth connection, said method comprising the steps of:

receiving at a speed control layer data from a first device at a first speed; and

limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a second device so as to transfer the data from the speed control layer to the second device over the high-bandwidth connection at a second predetermined speed, which is less than the first speed,

wherein the second device is a client device,

the high-bandwidth connection is at a third speed, and

the second predetermined speed at which the data is transferred from the speed control layer to the second device over the high-bandwidth connection is less than the third speed of the high-bandwidth connection.

2. The method as defined in claim 1, wherein in the limiting step, the data is transferred over a high-bandwidth LAN.

3. The method as defined in claim 2, wherein the second predetermined speed is a modem connection speed.

4. The method as defined in claim 1, further comprising the step of:

before the limiting step, setting the second predetermined speed.

5. The method as defined in claim 4, further comprising the step of changing the second predetermined speed to a fourth predetermined speed, which is also less than the first speed and less than the third speed of the high-bandwidth connection.

6. The method as defined in claim 1, further comprising the steps of:

receiving second data from the first device at the first speed; and

limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a third device so as to transfer the second data from the speed control layer to the third device over the high-bandwidth connection at a fifth predetermined speed, which is different than the second predetermined speed, less than the first speed, and less than the third speed of the high-bandwidth connection,

wherein the third device is a client device.

7. The method as defined in claim 1, further comprising the steps of:

receiving second data from the first device at the first speed; and

limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a third device so as to transfer the second data from the speed control layer to the third device over the high-bandwidth connection at the second predetermined speed,

wherein the third device is a client device.

8. The method as defined in claim 1, further comprising the steps of:

receiving second data from the first device at the first speed; and

limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a third device so as to transfer the second data from the speed control layer to the third device over the high-bandwidth connection at the third speed of the high-bandwidth connection,

wherein the third device is a client device.

9. A machine-readable medium encoded with a program for simulating a low-bandwidth connection over a higher-bandwidth connection, said program containing instructions for performing the steps of:

receiving at a speed control layer data from a first device at a first speed; and

limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a second device so as to transfer the data from the speed control layer to the second device over the high-bandwidth connection at a second predetermined speed, which is less than the first speed,

wherein the second device is a client device,

the high-bandwidth connection is at a third speed, and

the second predetermined speed at which the data is transferred from the speed control layer to the second device over the high-bandwidth connection is less than the third speed of the high-bandwidth connection

10. The machine-readable medium as defined in claim 9, wherein said program further contains instructions for performing the step of:

before the limiting step, setting the second predetermined speed.

11. The machine-readable medium as defined in claim 10, wherein said program further contains instructions for performing the step of changing the second predetermined speed to a fourth predetermined speed, which is also less than the first speed and less than the third speed of the high-bandwidth connection.

12. The machine-readable medium as defined in claim 9, wherein said program further contains instructions for performing the steps of:

receiving second data from the first device at the first speed; and

limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a third device so as to transfer the second data from the speed control layer to the third device over the high-bandwidth connection at a fifth predetermined speed, which is different than the second predetermined speed, less than the first speed, and less than the third speed of the high-bandwidth connection,

wherein the third device is a client device.

13. The machine-readable medium as defined in claim 9, wherein said program further contains instructions for performing the steps of:

receiving second data from the first device at the first speed; and

limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a third device so as to transfer the second data from the speed control layer to the third device over the high-bandwidth connection at the second predetermined speed,

wherein the third device is a client device.

14. The machine-readable medium as defined in claim 9, wherein said program further contains instructions for performing the steps of:

receiving second data from the first device at the first speed; and

limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and a third device so as to transfer the second data from the speed control layer to the third device over the high-bandwidth connection at the third speed of the high-bandwidth connection,

wherein the third device is a client device.

15. A computer system comprising:

a first device transferring data at a first speed;

a second device, the second device being a client device; and

a speed control layer coupled between the first and second devices, the speed control layer limiting the maximum data transfer speed of a high-bandwidth connection between the speed control layer and the second device so as to transfer data from the first device to the second device over a high-bandwidth connection at a second predetermined speed that is less than the first speed and less than the normal speed of the high-bandwidth connection.

16. The computer system as defined in claim 15, wherein the speed control layer includes an interface that is used to set the second predetermined speed.

17. The computer system as defined in claim 15, further comprising:

a third device coupled to the speed control layer, the third device being a client device,

wherein the speed control layer also limits the maximum data transfer speed of a high-bandwidth connection between the speed control layer and the third device so as to transfer data from the first device to the third device at a third predetermined speed which is different from the second predetermined speed.

18. The computer system as defined in claim 15, further comprising:

a third device coupled to the speed control layer, the third device being a client device,

wherein the speed control layer also limits the maximum data transfer speed of a high-bandwidth connection between the speed control layer and the third device so as to transfer data from the first device to the third device at the second predetermined speed.

19. The computer system as defined in claim 15, further comprising:

a third device coupled to the speed control layer, the third device being a client device,

wherein the speed control layer does not limit the maximum data transfer speed of a high-bandwidth connection between the speed control layer and the third device.

20. A proxy server for transferring data between a server and at least one client computer, said proxy server comprising:

a first interface for transferring data with the server;

a second interface for transferring data with the client computer; and

speed control means for limiting the maximum data transfer speed of a high-bandwidth connection between the server and the client computer so as to transfer data from the server to the client computer over a high-bandwidth connection at a first predetermined speed that is less than the normal speed of the high-bandwidth connection.

21. The proxy server as defined in claim 20, wherein the speed control means includes an interface that is used to set the first predetermined speed before the speed control means limits the maximum data transfer speed.

22. The proxy server as defined in claim 20, further comprising:

a third interface for transferring data with a second client computer,

wherein the speed control means also limits the maximum data transfer speed of a high-bandwidth connection between the server and the second client computer so as to transfer data from the server to the second client computer over a high-bandwidth connection at a second predetermined speed, which is different than the first predetermined speed and less than the normal speed of the high-bandwidth connection.

23. The proxy server as defined in claim 20, further comprising:

a third interface for transferring data with a second client computer,

wherein the speed control means also slows data transfer to the second client computer to the first predetermined speed.

wherein the speed control means also limits the maximum data transfer speed of a high-bandwidth connection between the server and the second client computer so as to transfer data from the server to the second client computer over a high-bandwidth connection at the first predetermined speed.

24. The proxy server as defined in claim 20, further comprising:

a third interface for transferring data with a second client computer,

wherein the speed control means does not limit the maximum data transfer speed of a high-bandwidth connection between the server and the second client computer.